Travis Zhang

480-434-8095 | tz98@cornell.edu | github.com/zhangtravis | linkedin.com/in/travis-zhang/

Education

Cornell University <div align="right">Ithaca, NY</div>
Bachelor of Science in Computer Science | **GPA:** 3.72/4.0 <div align="right">Sep 2020 – May 2024</div>
Relevant Courses: Operating Systems*, Large-Scale ML*, NLP*, Intro to ML, Analysis of Algorithms, Computer Systems, Computer Vision, Linear Algebra, Probability & Statistics, Differential Equations, OOP and Data Structures, Functional Programming, Backend Development, Discrete Structures, Multivariable Calculus
*: Current courses

Skills and Interests

Skills: Java, Python, Swift, C++, Keras, Pytorch, Tensorflow, Numpy, Pandas, HTML, CSS, Scikit-learn, OCaml, Flask
Technologies: Docker, CUDA, GCP, Linux, Microsoft Azure, Jupyter Notebook, Apache Kafka, Redis, Kubernetes
Interests: Photography, Tennis, Volleyball, Snowboarding, Adversarial Attacks, Robotics, Airplanes, Self-Driving, F1 Racing

Experiences

Munich Re Life US <div align="right">New York, NY</div>
Data Science Intern <div align="right">June 2022 – Aug 2022</div>
- Developed active learning python package to improve ML model performance
- Containerized and built testing suites using Docker and CI/CD pipeline to deploy product
- Designed, implemented, and deployed 2 event-driven architectures (Apache Kafka and Redis) for ML product
- Implemented scatter-gather for Kafka version and compared performances between the two architectures

Cornell ML Core Group <div align="right">Ithaca, NY</div>
Student Researcher <div align="right">Sep 2021 – Present</div>
- Improved domain adaptation in self-driving cars using unsupervised learning by up to 15% (Accepted into Neurips 2022)
- Developed novel object tracking pipeline for self-driving cars using Transformers

Intelligent Automation Inc. <div align="right">Rockville, MD</div>
Software Engineer Intern <div align="right">June 2021 – Aug 2021</div>
- Built Transient Attribute classifier in Pytorch to help improve cross-view image geolocalization for satellite imagery
- Applied 2 object detection networks to detect buildings in satellite imagery

ASU Robust ML Group <div align="right">Tempe, AZ</div>
Student Researcher <div align="right">April 2019 – March 2021</div>
- Developed defense methodology using Tensorflow to improve robustness of Convnets (up to 5% improvement in accuracy and 3% improvement in robustness)
- Designed targeted physical attacks using Pytorch to control trajectory of autonomous vehicle (Accepted into ICRA 2022)

1: https://ieeexplore.ieee.org/document/9811574

Activities

Cornell Data Science Project Team <div align="right">Ithaca, NY</div>
Intelligent Systems Subteam Lead <div align="right">Feb 2020 – Present</div>
- Onboarded 10+ new members about ML basics (Convnets, Grad Descent, etc.) and mentored their first projects
- Led team of 20+ members and taught data science techniques and skills
- Managed AWS and Azure Cloud compute resources and GPU server for team

Associate of Computer Science Undergraduates <div align="right">Ithaca, NY</div>
Academic Co-chair <div align="right">Oct 2020 – May 2022</div>
- Helped organize and host academic events including research night and student-faculty luncheon for 150+ students
- Managed and led 15+ members in academic team

Projects

Bias in ML[2] <div align="right">Aug 2021 – May 2022</div>
Project Manager
- Collaborated with Munich RE to develop 2+ bias-mitigation techniques in DALL-E + CLIP architecture
- Identified gender biases in movie scripts using 3+ rule-based methods and 2+ ML-based methods (including sentiment analysis)
- Presented about bias in machine learning to 50+ Cornell students and various companies (including MongoDB)

Pokerbot <div align="right">Jan 2021 – Dec 2021</div>
- Developed 3+ RL agents (perfect and imperfect information) to play No Limit Texas Hold Em
- Implemented ReBeL algorithm for Kuhn Poker and Leduc Poker

GeoPenguin[1] <div align="right">Aug 2020 – Sep 2020</div>
- Designed iOS app using SwiftUI that reminded students to bring both COVID-related and personal items
- Implemented Geofencing technologies to encourage social distancing and track when to send out reminders

1: https://github.com/thelostninjah/GeoPenguin
2: https://cornell-data.medium.com/how-biased-are-text-to-image-models-99e8fdb8c5ab